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EXAMINER	
VU, BAI D	

ART UNIT	PAPER NUMBER
2165	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/576,009	GIBBINS, NIGEL JAMES	
	Examiner	Art Unit	
	Bai D. Vu	2165	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 July 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *03 July 2008* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Applicant has amended claims 1-5 and 7-20 in the amendment filed on 07/03/2008.

Claims 1-20 are pending in this office action.

Response to Arguments

2. Applicant's arguments filed on 07/03/2008 with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

Regarding the 35 U.S.C. § 101 rejection:

- Applicant has amended claims 18 and 20 to recite "a computer program product embodied in a computer-readable medium". Therefore, amended claims 18 and 20 are directed to statutory subject matter.

In response to applicant's argument, examiner respectfully disagrees because "a computer-readable medium", in the instant specification, is not explicitly defined. Thus, "medium" can be interpreted as a transmission medium to include signals. The claims fail to place the invention squarely within one statutory class of invention. See the rejection under 35 U.S.C. § 101 provided in this office action.

Specification

3. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d) (1) and MPEP § 608.01(o).

Claims 18 and 20 recite limitation "*computer-readable medium*". The specification fails to provide an explicitly definition of the limitation *"computer-readable medium"*, thus insufficiently supports the claimed limitations.

Appropriate correction is required.

Claim Objections

4. Claim 9 is objected to because of the following informalities:

In claim 9 line 3, the phrase "and/or" should be replaced by either "and" or "or" to make claim clearer. Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. **Claims 1, 4, 12 and 16** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The added limitations "a feed generator" in claim 1 line 7, claim 4 line 2, claim 12 line 5, and claim 16 line 9, and "a storage component" and "a look-up component" in claim 12 lines 8 and 10, contains subject matter which was not described in the instant specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim Rejections - 35 USC § 101

7. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

8. **Claims 1-9, 16, 18 and 20** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

As per **claim 1**, is a server claim, and **claim 16** is a system claim; the claims do not contain any hardware. Thus, the claim lacks the necessary physical articles or objects to constitute a machine or a manufacture within the meaning of 35 USC 101. They are clearly not a series of steps or acts to be a process nor are they a combination of chemical compounds to be a composition of matter. As such, they fail to fall within a statutory category. They are, at best, functional descriptive material *per se*.

Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." Both types of "descriptive material" are nonstatutory when claimed as descriptive material *per se*, 33 F.3d at 1360, 31 USPQ2d

at 1759. When functional descriptive material is recorded on some computer-readable medium, it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994)

Merely claiming nonfunctional descriptive material, i.e., abstract ideas, stored on a computer-readable medium, in a computer, or on an electromagnetic carrier signal, does not make it statutory. See Diehr, 450 U.S. at 185-86, 209 USPQ at 8 (noting that the claims for an algorithm in *Benson* were unpatentable as abstract ideas because "[t]he sole practical application of the algorithm was in connection with the programming of a general purpose computer.")

As such, **claims 2-9** are rejected as incorporating the deficiencies of claim 1 upon which they depend.

As per **claims 18 and 20** recite a computer-readable medium. The claims fail to place the invention squarely within one statutory class of invention. In the instant specification, applicant has not provided an explicitly definition of the computer-readable medium. Thus, "medium" can be interpreted as a transmission medium to include signals. As such, the claim drawn to a form of energy. Energy is not one of the four categories of invention and therefore this claim is not statutory. Energy is not a series of steps or acts and thus is not a process. Energy is not a physical or object and as

such is not a machine or manufacture. Energy is not a combination of substances and therefore not a composition of matter.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. **Claims 1-4, 8, 10, 11 and 16-18** are rejected under 35 U.S.C. 103(a) as being unpatentable over Woodlard et al. (US Pat. No. 6,178,362 B1), and further in view of Green et al. (WO 01/94937 A1).

As per **claim 1**, Woodlard et al. discloses "a server for connecting to equipment to be monitored, the server receiving data from the equipment and having an internet protocol address for providing access to a remote device, the server" as cited herein *FIG. 1* wherein the energy and facilities management system 12, facilities 14, and terminals 17 interpreted as the server, an equipment, and the remote device respectively "comprising:"

"a database for storing the data received from the equipment;" as cited herein *in operation, the devices D may generate data about the operation of the device or its energy usage and pass the data to the gateway which forwards it on to the server which stores the data (col. 8 lines 13-16)*; and *the server 102 may include a real-time*

database (Rtdb) 128 and a configuration database 129 which communicate with each other. The Rtdb may receive data from the gateways, issue commands to the devices, and disseminate data to the client PCs 104-108. The configuration database 129 may receive configuration data from a gateway for a particular device and forward updated configuration data to a device and gateway (col. 9 lines 28-36) wherein the device interpreted as the equipment.

a summarizer for monitoring and summarizing the data stored in the database; and (as cited herein *the energy and facilities management system 12 may permit, for example, the energy usage of each facility to be monitored and an alarm sounded if a predetermined condition occurs (col. 4 lines 40-43)*; and *the energy manager may receive data from a variety of sources, such as utility meters in the facility. The energy manager may perform a variety of functions, such as tracking energy usage, analyzing energy usage by analyzing historical energy usage data or analyzing energy load aggregation data, energy rate analyzing, energy usage forecasting based on various data such as forecast weather conditions, power procurement analyzing, such as generating a request for purchase (RFP), analyzing the energy usage of different sites and comparing the sites to each other and alarm signaling (col. 5 lines 52-62)* interpreted as monitoring and summarizing data).

a feed generator for generating a feed based on at least one of the data stored in the database and the summarized data, the feed being stored on the server, (as cited herein *the energy manager 40 gathers energy usage data and permits users of the system to view and analyze energy usage over any combination of facilities or time*

periods. The energy manager may permit the user to diagnose energy usage problems and develop strategies to reduce energy costs by optimizing responses to queries by the user based on the time of day, the current energy rate and environmental conditions. The energy manager may receive data from a variety of sources, such as utility meters in the facility. The energy manager may perform a variety of functions, such as tracking energy usage, analyzing energy usage by analyzing historical energy usage data or analyzing energy load aggregation data, energy rate analyzing, energy usage forecasting based on various data such as forecast weather conditions, power procurement analyzing, such as generating a request for purchase (RFP), analyzing the energy usage of different sites and comparing the sites to each other and alarm signaling. In more detail, the usage tracking may include monitoring and generating trends for real-time energy usage of each facility in various energy units, such as kilowatts (KW), kilowatt hours (KWH), or British thermal units (BTUs) (col. 5 lines 45-66); and *an alarm signaling function may generate an alarm signal when certain conditions occur, such as energy load peaks, power spikes, surges, sags and deviations from an acceptable signal quality and keep track of the total number of alarms (col. 6 lines 17-21)* wherein gathered energy usage data interpreted as a feed of data).

"wherein the server provides the remote device with access to the feed" as cited herein *these terminals 17 may be located at any location where access to the communications system 16 is available. For example, a manager may access real-time energy data from a facility in Singapore while in New York. In addition, there may be*

multiple people at various different locations accessing different or the same energy data at the same time due to the real-time data retrieval and dissemination system as described below in more detail. Thus, anyone in the entity may access any energy data about the physical plant at any time. The actual data displayed to each user may be customized based on the user's needs so that each user may receive different data or the same data presented in a different way. For example, a CFO may receive a different set of data than an energy manager (col. 4 lines 51- 65).

Green et al. discloses the limitations, which do not explicitly disclose by Woodlard et al., as followings:

"summarizing the data" as cited herein *the invention may also provide summary and background information regarding particular water quality parameters (p. 6 lines 13-14)*.

"the feed being stored on the server" as cited herein *the database system maintains information regarding each user and the data submitted by each user. This information may include information for tailoring a web interface for the use of particular users (p. 6 lines 7-9)*.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply Green et al. teaching of a centralized database system for collecting and storing water quality data into Woodlard et al. system in order to measure, analyze and maintain the quality of water (Abstract, lines 1-2).

As per **claim 2**, Woodlard et al. discloses "the server according to claim 1 wherein the feed stored on the server is updated upon occurrence of events received in the server from the equipment" as cited herein *when a data change occurs on a device 118-126, a data gateway 110-116 attached to the device may detect or be signaled of the data change depending on the capabilities of the device. Once the gateway receives the changed data, it may preprocess the data to standardize it for the energy management system and communicate it onto the Rtdb server 102. Upon arrival of the changed data at the Rtdb server, the Rtdb server checks an update list to determine which concentrators 136 are currently registered to receive data updates for this device (col. 9 line 59 to col. 10 line 1)*.

As per **claim 3**, Woodlard et al. discloses "the server according to claim 1 wherein the feed is updated from the data stored in the database at regular report intervals" as cited herein *the energy manager 40 gathers energy usage data and permits users of the system to view and analyze energy usage over any combination of facilities or time periods (col. 5 lines 45-47)*; and *the facility manager may also monitor and display peak facility operating periods. The facility manager may also analyze equipment efficiencies under partial and full load, develop operating efficiency load profiles, track operating hours and benchmark load profiles against capacity ratings. The facility manager may also optimize the existing systems by, for example, balancing HVAC operating times to meet building use periods and environmental changes, and optimize existing equipment's usage. The facility manager may also control the existing*

systems and devices and initiate soft starts, hard starts and stops of the equipment, program control set-points and provide a manual override of the systems and equipment (col. 7 lines 3-15).

As per **claim 4**, Woodlard et al. does not explicitly disclose "the server according to claim 1 wherein the feed generator interrogates the database to generate the feed dynamically". However, Green et al. discloses as cited herein *the database system is used by both remote users inputting data, and by users simply wishing to view data collected by others (p. 6 lines 4-5)*; and *through server application software 40, users 22 will have graphical and textual access to measurement and analysis data 41 contained on the centralized database server 16. The server application software 40 will allow users 22 to view the data in a variety of meaningful ways, such as graphical output as a function of time, comparison graphs against governmental and regulatory standards (both current and proposed), and statistical analysis of data and test results. Users will also be able to selectively download this data in a variety of standard formats (p. 13 lines 1-7).*

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply Green et al. teaching of a centralized database system for collecting and storing water quality data into Woodlard et al. system in order to measure, analyze and maintain the quality of water (Abstract, lines 1-2).

As per **claim 8**, Woodlard et al. discloses "the server according to claim 1 wherein the feed includes a name and wherein a request from the remote device specifies the name, whereby the remote device can select information to be viewed by appropriate name selection" as cited herein *the apparatus 26 may be a computer system which executes a plurality of different software packages which implement the functions of the system which are described below. As shown, the apparatus 26 may include an energy manager 40, a facility navigator 42, a facility manager 44 and an alarm manager 46. Thus, the apparatus may be divided up into four components and a customer may select features from some or all of these components to create a product bundle that most closely fits their needs (col. 5 lines 30-38)*; *the energy manager 40 gathers energy usage data and permits users of the system to view and analyze energy usage over any combination of facilities or time periods. The energy manager may permit the user to diagnose energy usage problems and develop strategies to reduce energy costs by optimizing responses to queries by the user based on the time of day, the current energy rate and environmental conditions (col. 5 lines 45-52)*; *the facility navigator 42 may permit any user of the energy and facility management apparatus 26 who is connected to the apparatus by the communications system 16 (see FIG. 1) to view real-time two-dimensional or three-dimensional representations of any facility in the physical plant, to configure a particular site, to analyze and locate energy or facility management problems at a site, or to generate a report. In particular, the facility navigator may permit a user to navigate and analyze problems at multiple sites using advanced 2-D and 3-D visualization tools (col. 6 lines 23-32)*; *the facility manager 44*

may integrate existing building control systems to permit the user of the apparatus to have access to data from the existing building control systems as well as newly installed systems so that the apparatus 26 may be easily integrated with existing systems. The facility manager may perform data monitoring and collection processes which may include monitoring, trending and archiving data (i.e., temperatures, pressures, flows, levels, set points and states) about existing systems, such as HVAC systems, boilers, chillers, cooling towers, generators, compressors, motors and pumps and lighting (col. 6 lines 55-65); and *the alarm manager 46 handles any alarms generated at any point in the apparatus 26 or physical plant 10. For example, it may collect alarm information from the energy manager or the facility manager and then prioritize these alarms. The alarm manager may also notify the appropriate people, by various different methods, such as e-mail, fax or pager, who need to respond to a particular alarm (col. 7 lines 16-22)*.

As per **claim 10**, Woodlard et al. discloses "a manufacturing plant comprising a plurality of sensing devices, each having sensing means for sensing a parameter, and a server in accordance with claim 1 connected to the sensing means for receiving and storing data from the sensing means and delivering it to the remote device" as cited herein *FIG. 4 illustrates more details of a real-time data retrieval and dissemination system 100 in accordance with the invention. In a preferred embodiment, the real-time data retrieval and dissemination system 100 may be implemented as a sophisticated software system containing a plurality of software applications which can perform*

various energy and facility management tasks. For example, the system 100 may remotely interface to various data acquisition and control systems over existing data networks (i.e., an internal computer network or the Internet/Intranet) thereby eliminating the need for proprietary, expensive cabling to remotely locate a control system user-interface software application which permits a user to control and manage the entire physical plant of an organization from one location. In addition, because the system 100 interfaces to and consolidates the data from a variety of different systems having possible different data protocols into a central data server, a user of the system may utilize a common workstation to access and combine the functionality of different control systems from the same location using the same software. As with the equipment and physical plant which may be distributed over a large geographic area, the client software applications, which permit access to the data, may also be located anywhere within the span of the data network. This is especially advantageous since the number and type of client applications requesting for real-time information will grow significantly in the future, as this information becomes integral in optimizing the asset utilization of the enterprise. This permits the system to be scaleable and accommodate future expansion of the physical plant. It also permits the person controlling the physical plant to access data about the physical plant from any location. It also permits other people in the organization, such as the chief financial officer, to access data about the physical plant from his desktop computer which has a browser. In the example shown, the system 100 may include a central server computer 102, one or more client personal computers 104, 106, 108, one or more gateways 110, 112, 114, 116 which connect one

or more devices 118, 120, 122, 124, 126 to the server 102 (col. 8 lines 26-64); and *when a data change occurs on a device 118-126, a data gateway 110-116 attached to the device may detect or be signaled of the data change depending on the capabilities of the device. Once the gateway receives the changed data, it may preprocess the data to standardize it for the energy management system and communicate it onto the Rtdb server 102. Upon arrival of the changed data at the Rtdb server, the Rtdb server checks an update list to determine which concentrators 136 are currently registered to receive data updates for this device. The current list of concentrators which receive the updated data for a particular device changes in real-time based on what data each concentrator is currently requesting or what data is being currently displayed by each client PC (col. 9 line 59 to col. 10 line 5)*.

As per **claim 11**, Woodlard et al. discloses "the manufacturing plant according to claim 10 wherein the parameters are selected from: flow parameters, temperature, pressure, alarms, status, chemical sensor parameters, time, vibration, noise and electrical parameters" as cited herein *the facility manager 44 may integrate existing building control systems to permit the user of the apparatus to have access to data from the existing building control systems as well as newly installed systems so that the apparatus 26 may be easily integrated with existing systems. The facility manager may perform data monitoring and collection processes which may include monitoring, trending and archiving data (i.e., temperatures, pressures, flows, levels, set points and states) about existing systems, such as HVAC systems, boilers, chillers, cooling towers,*

generators, compressors, motors and pumps and lighting. The facility manager may also monitor and trend (i.e., determine a trend and how the particular quantity will act in the future) environmental conditions, such as lighting, interior and exterior temperatures, relative humidity, solar radiation and the like. The facility manager may also monitor and display peak facility operating periods. The facility manager may also analyze equipment efficiencies under partial and full load, develop operating efficiency load profiles, track operating hours and benchmark load profiles against capacity ratings. The facility manager may also optimize the existing systems by, for example, balancing HVAC operating times to meet building use periods and environmental changes, and optimize existing equipment's usage. The facility manager may also control the existing systems and devices and initiate soft starts, hard starts and stops of the equipment, program control set-points and provide a manual override of the systems and equipment. The alarm manager 46 handles any alarms generated at any point in the apparatus 26 or physical plant 10. For example, it may collect alarm information from the energy manager or the facility manager and then prioritize these alarms. The alarm manager may also notify the appropriate people, by various different methods, such as e-mail, fax or pager, who need to respond to a particular alarm (col. 6 line 55 to col. 7 line 22).

As per **claim 16**, Woodlard et al. discloses "an equipment monitoring system comprising: a device according to claim 12; and a server for connecting to equipment to be monitored, the server receiving data from the equipment and having an internet

protocol address for providing access to the device," as cited herein *FIG. 1* wherein the energy and facilities management system 12, facilities 14, and terminals 17 interpreted as the server, an equipment, and the remote device respectively "the server comprising:"

"a database for storing the data received from the equipment;" as cited herein *in operation, the devices D may generate data about the operation of the device or its energy usage and pass the data to the gateway which forwards it on to the server which stores the data (col. 8 lines 13-16)*; and *the server 102 may include a real-time database (Rtdb) 128 and a configuration database 129 which communicate with each other. The Rtdb may receive data from the gateways, issue commands to the devices, and disseminate data to the client PCs 104-108. The configuration database 129 may receive configuration data from a gateway for a particular device and forward updated configuration data to a device and gateway (col. 9 lines 28-36)* wherein the device interpreted as the equipment.

a summarizer for monitoring and summarizing the data stored in the database; and (as cited herein *the energy and facilities management system 12 may permit, for example, the energy usage of each facility to be monitored and an alarm sounded if a predetermined condition occurs (col. 4 lines 40-43)*; and *the energy manager may receive data from a variety of sources, such as utility meters in the facility. The energy manager may perform a variety of functions, such as tracking energy usage, analyzing energy usage by analyzing historical energy usage data or analyzing energy load aggregation data, energy rate analyzing, energy usage forecasting based on various*

data such as forecast weather conditions, power procurement analyzing, such as generating a request for purchase (RFP), analyzing the energy usage of different sites and comparing the sites to each other and alarm signaling (col. 5 lines 52-62) interpreted as monitoring and summarizing data).

a feed generator for generating a feed based on at least one of the data stored in the database and the summarized data, the feed being stored on the server, (as cited herein *the energy manager 40 gathers energy usage data and permits users of the system to view and analyze energy usage over any combination of facilities or time periods. The energy manager may permit the user to diagnose energy usage problems and develop strategies to reduce energy costs by optimizing responses to queries by the user based on the time of day, the current energy rate and environmental conditions. The energy manager may receive data from a variety of sources, such as utility meters in the facility. The energy manager may perform a variety of functions, such as tracking energy usage, analyzing energy usage by analyzing historical energy usage data or analyzing energy load aggregation data, energy rate analyzing, energy usage forecasting based on various data such as forecast weather conditions, power procurement analyzing, such as generating a request for purchase (RFP), analyzing the energy usage of different sites and comparing the sites to each other and alarm signaling. In more detail, the usage tracking may include monitoring and generating trends for real-time energy usage of each facility in various energy units, such as kilowatts (KW), kilowatt hours (KWH), or British thermal units (BTUs) (col. 5 lines 45-66)*; and *an alarm signaling function may generate an alarm signal when certain*

conditions occur, such as energy load peaks, power spikes, surges, sags and deviations from an acceptable signal quality and keep track of the total number of alarms (col. 6 lines 17-21) wherein gathered energy usage data interpreted as a feed of data).

"wherein the server provides the device with access to the feed, and" as cited herein *these terminals 17 may be located at any location where access to the communications system 16 is available. For example, a manager may access real-time energy data from a facility in Singapore while in New York. In addition, there may be multiple people at various different locations accessing different or the same energy data at the same time due to the real-time data retrieval and dissemination system as described below in more detail. Thus, anyone in the entity may access any energy data about the physical plant at any time. The actual data displayed to each user may be customized based on the user's needs so that each user may receive different data or the same data presented in a different way. For example, a CFO may receive a different set of data than an energy manager (col. 4 lines 51- 65)*.

"wherein the device is connected to the server via an intranet or the Internet" as cited herein *each client PC 104, 106 or 108 may include one or more client objects 130, 132, 134 which are connected to a concentrator 136. As described above, the client objects, which may be software applications being executed by the client PC, such as a Internet/Intranet browser, may generate requests for data from the server 102 which the concentrator 136 may combine together if possible. The concentrator 136 thus may act as a data traffic controller to prevent the client objects from overloading the server 102*

with duplicate requests. The concentrator, therefore, reduces the data traffic flow between the server 102 and each PC (col. 9 lines 38-48).

Green et al. discloses the limitations, which do not explicitly disclose by Woodlard et al., as followings:

"summarizing the data" as cited herein *the invention may also provide summary and background information regarding particular water quality parameters (p. 6 lines 13-14)*.

"the feed being stored on the server" as cited herein *the database system maintains information regarding each user and the data submitted by each user. This information may include information for tailoring a web interface for the use of particular users (p. 6 lines 7-9)*.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply Green et al. teaching of a centralized database system for collecting and storing water quality data into Woodlard et al. system in order to measure, analyze and maintain the quality of water (Abstract, lines 1-2).

As per **claim 17**, Woodlard et al. discloses "a method of operation of a server connected to equipment to be monitored, the server receiving data from the equipment and having an internet protocol address for providing access to a remote device," as cited herein *FIG. 1* wherein the energy and facilities management system 12, facilities 14, and terminals 17 interpreted as the server, an equipment, and the remote device respectively "the method comprising:"

"storing the received data in a database;" as cited herein *in operation, the devices D may generate data about the operation of the device or its energy usage and pass the data to the gateway which forwards it on to the server which stores the data (col. 8 lines 13-16)*; and *the server 102 may include a real-time database (Rtdb) 128 and a configuration database 129 which communicate with each other. The Rtdb may receive data from the gateways, issue commands to the devices, and disseminate data to the client PCs 104-108. The configuration database 129 may receive configuration data from a gateway for a particular device and forward updated configuration data to a device and gateway (col. 9 lines 28-36)* wherein the device interpreted as the equipment.

monitoring and summarizing the data stored in the database; (as cited herein *the energy and facilities management system 12 may permit, for example, the energy usage of each facility to be monitored and an alarm sounded if a predetermined condition occurs (col. 4 lines 40-43)*; and *the energy manager may receive data from a variety of sources, such as utility meters in the facility. The energy manager may perform a variety of functions, such as tracking energy usage, analyzing energy usage by analyzing historical energy usage data or analyzing energy load aggregation data, energy rate analyzing, energy usage forecasting based on various data such as forecast weather conditions, power procurement analyzing, such as generating a request for purchase (RFP), analyzing the energy usage of different sites and comparing the sites to each other and alarm signaling (col. 5 lines 52-62)* interpreted as monitoring and summarizing data).

generating a feed containing reports of parameters being monitored in the equipment based on at least one of the data stored in the database and the summarized data; (as cited herein *the energy manager 40 gathers energy usage data and permits users of the system to view and analyze energy usage over any combination of facilities or time periods. The energy manager may permit the user to diagnose energy usage problems and develop strategies to reduce energy costs by optimizing responses to queries by the user based on the time of day, the current energy rate and environmental conditions. The energy manager may receive data from a variety of sources, such as utility meters in the facility. The energy manager may perform a variety of functions, such as tracking energy usage, analyzing energy usage by analyzing historical energy usage data or analyzing energy load aggregation data, energy rate analyzing, energy usage forecasting based on various data such as forecast weather conditions, power procurement analyzing, such as generating a request for purchase (RFP), analyzing the energy usage of different sites and comparing the sites to each other and alarm signaling. In more detail, the usage tracking may include monitoring and generating trends for real-time energy usage of each facility in various energy units, such as kilowatts (KW), kilowatt hours (KWH), or British thermal units (BTUs) (col. 5 lines 45-66)*; and *an alarm signaling function may generate an alarm signal when certain conditions occur, such as energy load peaks, power spikes, surges, sags and deviations from an acceptable signal quality and keep track of the total number of alarms (col. 6 lines 17-21)* wherein gathered energy usage data interpreted as a feed of data).

"provide the feed to the remote device" as cited herein *these terminals 17 may be located at any location where access to the communications system 16 is available. For example, a manager may access real-time energy data from a facility in Singapore while in New York. In addition, there may be multiple people at various different locations accessing different or the same energy data at the same time due to the real-time data retrieval and dissemination system as described below in more detail. Thus, anyone in the entity may access any energy data about the physical plant at any time. The actual data displayed to each user may be customized based on the user's needs so that each user may receive different data or the same data presented in a different way. For example, a CFO may receive a different set of data than an energy manager (col. 4 lines 51- 65)*.

Green et al. discloses the limitations, which do not explicitly disclose by Woodlard et al., as followings:

"summarizing the data" as cited herein *the invention may also provide summary and background information regarding particular water quality parameters (p. 6 lines 13-14)*.

"storing the feed on the server" as cited herein *the database system maintains information regarding each user and the data submitted by each user. This information may include information for tailoring a web interface for the use of particular users (p. 6 lines 7-9)*.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply Green et al. teaching of a centralized database system for

collecting and storing water quality data into Woodlard et al. system in order to measure, analyze and maintain the quality of water (Abstract, lines 1-2).

As per **claim 18**, Woodlard et al. discloses "a computer program product embodied in a computer-readable medium comprising instructions and data which, when loaded onto a server receiving data from equipment and having an internet protocol address for providing access to a remote device," as cited herein *FIG. 1* wherein the energy and facilities management system 12, facilities 14, and terminals 17 interpreted as the server, an equipment, and the remote device respectively "causes the server to:"

"store he received data in a database;" as cited herein *in operation, the devices D may generate data about the operation of the device or its energy usage and pass the data to the gateway which forwards it on to the server which stores the data (col. 8 lines 13-16)*; and *the server 102 may include a real-time database (Rtdb) 128 and a configuration database 129 which communicate with each other. The Rtdb may receive data from the gateways, issue commands to the devices, and disseminate data to the client PCs 104-108. The configuration database 129 may receive configuration data from a gateway for a particular device and forward updated configuration data to a device and gateway (col. 9 lines 28-36)* wherein the device interpreted as the equipment.

monitor and summarize the data stored in the database; (as cited herein *the energy and facilities management system 12 may permit, for example, the energy*

usage of each facility to be monitored and an alarm sounded if a predetermined condition occurs (col. 4 lines 40-43); and *the energy manager may receive data from a variety of sources, such as utility meters in the facility. The energy manager may perform a variety of functions, such as tracking energy usage, analyzing energy usage by analyzing historical energy usage data or analyzing energy load aggregation data, energy rate analyzing, energy usage forecasting based on various data such as forecast weather conditions, power procurement analyzing, such as generating a request for purchase (RFP), analyzing the energy usage of different sites and comparing the sites to each other and alarm signaling (col. 5 lines 52-62)* interpreted as monitoring and summarizing data).

generate a feed containing reports of parameters being monitored in the equipment based on at least one of the data stored in the database and the summarized data; (as cited herein *the energy manager 40 gathers energy usage data and permits users of the system to view and analyze energy usage over any combination of facilities or time periods. The energy manager may permit the user to diagnose energy usage problems and develop strategies to reduce energy costs by optimizing responses to queries by the user based on the time of day, the current energy rate and environmental conditions. The energy manager may receive data from a variety of sources, such as utility meters in the facility. The energy manager may perform a variety of functions, such as tracking energy usage, analyzing energy usage by analyzing historical energy usage data or analyzing energy load aggregation data, energy rate analyzing, energy usage forecasting based on various data such as*

forecast weather conditions, power procurement analyzing, such as generating a request for purchase (RFP), analyzing the energy usage of different sites and comparing the sites to each other and alarm signaling. In more detail, the usage tracking may include monitoring and generating trends for real-time energy usage of each facility in various energy units, such as kilowatts (KW), kilowatt hours (KWH), or British thermal units (BTUs) (col. 5 lines 45-66); and *an alarm signaling function may generate an alarm signal when certain conditions occur, such as energy load peaks, power spikes, surges, sags and deviations from an acceptable signal quality and keep track of the total number of alarms (col. 6 lines 17-21)* wherein gathered energy usage data interpreted as a feed of data).

"provide the feed to the remote device" as cited herein *these terminals 17 may be located at any location where access to the communications system 16 is available. For example, a manager may access real-time energy data from a facility in Singapore while in New York. In addition, there may be multiple people at various different locations accessing different or the same energy data at the same time due to the real-time data retrieval and dissemination system as described below in more detail. Thus, anyone in the entity may access any energy data about the physical plant at any time. The actual data displayed to each user may be customized based on the user's needs so that each user may receive different data or the same data presented in a different way. For example, a CFO may receive a different set of data than an energy manager (col. 4 lines 51- 65).*

Green et al. discloses the limitations, which do not explicitly disclose by Woodlard et al., as followings:

"summarizing the data" as cited herein *the invention may also provide summary and background information regarding particular water quality parameters (p. 6 lines 13-14)*.

"store the feed on the server; and" as cited herein *the database system maintains information regarding each user and the data submitted by each user. This information may include information for tailoring a web interface for the use of particular users (p. 6 lines 7-9)*.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply Green et al. teaching of a centralized database system for collecting and storing water quality data into Woodlard et al. system in order to measure, analyze and maintain the quality of water (Abstract, lines 1-2).

11. **Claims 5-7 and 9** are rejected under 35 U.S.C. 103(a) as being unpatentable over Woodlard et al., in view of Green et al., and further in view of Nixon et al. (US Pub. No. 2002/0077711 A1).

As per **claim 5**, Woodlard et al. and Green et al. do not explicitly disclose "the server according to claim 1 wherein the feed comprises an extensible mark-up language (XML) file containing an item tag and wherein data to be delivered to the remote device is marked up by the item tag". However, Nixon et al. dsicloses as cited herein *if the data*

collection and distribution system is located in the computer 30, it may receive data from the disparate sources of data, such as the controllers, equipment monitoring and financial applications separately using different data formats, or using a common format. In one embodiment, the communications over the bus 32 occur using the XML protocol. Here, data from each of the computers 12A, 18, 14A, 22, 26, 35, 36, etc. is wrapped in an XML wrapper and is sent to an XML data server which may be located in, for example, the computer 30. Because XML is a descriptive language, the server can process any type of data. At the server, if necessary, the data is encapsulated and mapped to a new XML wrapper, i.e., this data is mapped from one XML schema to one or more other XML schemas which are created for each of the receiving applications (¶ 0040 lines 7-21).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply Nixon et al. teaching of a data collection and distribution system into Woodlard et al. and Green et al. systems in order to collect and store data from different data sources, each of which may use it own proprietary manner of acquiring or generating the data in the first place, and then make the stored data available to other applications associated with or provided in the process control system or to applications associated with the data sources themselves for use in any desired manner (¶ 0013 lines 2-9).

As per **claim 6**, Woodlard et al. and Green et al. do not explicitly disclose “the server according to claim 5 wherein the XML file is structured as a Rich Site Summary

(RSS) feed". However, Nixon et al. discloses as cited herein *at the server, if necessary, the data is encapsulated and mapped to a new XML wrapper, i.e., this data is mapped from one XML schema to one or more other XML schemas which are created for each of the receiving applications (¶ 0040 lines 17-21)* wherein XML wrapper interpreted as Rich Site Summary (RSS) feed that any of various XML file formats suitable for disseminating real-time information via subscription on the Internet. Also, RSS is the acronym used to describe the de facto standard for the syndication of web content. RSS is an XML-based format and while it can be used in different ways for content distribution, its most widespread usage is in distributing news headlines on the web. A Web site that wants to allow other sites to publish some of its content creates an RSS document and registers the document with an RSS publisher. A user that can read RSS-distributed content can use the content on a different site. Syndicated content can include data such as news feeds, events listings, news stories, headlines, project updates, excerpts from discussion forums or even corporate information.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply Nixon et al. teaching of a data collection and distribution system into Woodlard et al. and Green et al. systems in order to collect and store data from different data sources, each of which may use it own proprietary manner of acquiring or generating the data in the first place, and then make the stored data available to other applications associated with or provided in the process control system or to applications associated with the data sources themselves for use in any desired manner (¶ 0013 lines 2-9).

As per **claim 7**, Woodlard et al. and Green et al. do not explicitly disclose "the server according to claim 5 wherein the item tag includes a title part, a link part and a description part". However, Nixon et al. discloses as cited herein *the web services 310 includes a series of web service listeners 314 which listen for or which subscribe to certain data from other data sources and provide this data to the subscribing applications. The subscribing applications may be associated with the applications within the ITS 302 or a process control system. The web listening services (which may be part of the data collection and distribution system 102) may listen for and redistribute alarms and events data, process condition monitoring data and equipment condition monitoring data. Interfaces for this data are used to convert the data to a standard format or protocol, such as the Fieldbus or DeltaV protocol or to XML as desired (¶ 0084)*; and *FIG. 12 is yet another exemplary depiction of a display that may be provided by a graphical user interface to enable a user to quickly investigate information within a plant (¶ 0027)* wherein desired XML allows designers to create their own customized tags, enabling the definition, transmission, validation, and interpretation of data between applications and between organizations.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply Nixon et al. teaching of a data collection and distribution system into Woodlard et al. and Green et al. systems in order to collect and store data from different data sources, each of which may use it own proprietary manner of acquiring or generating the data in the first place, and then make the stored data

available to other applications associated with or provided in the process control system or to applications associated with the data sources themselves for use in any desired manner (¶ 0013 lines 2-9).

As per **claim 9**, Woodlard et al. and Green et al. do not explicitly disclose "the server according to claim 8 comprising a tool to enable different feeds with different names to be structured differently and/or to accept and deliver different data according to requirements of the remote device". However, Nixon et al. discloses as cited herein *FIG. 12 is yet another exemplary depiction of a display that may be provided by the GUI to enable a user to quickly investigate alarm information, conditions, etc. within the plant 10. A high level graphical view 750 of the plant 10 may include an alarm banner 760 having one or more pending alarms. Each of the alarms within the alarm banner may be represented using an alphanumeric indicator that is uniquely associated with the device or other entity which generated the alarm or event. Additionally, each of the alarms within the banner 760 may also include an information button 770, which may be selected by a user to generate a pop-up window 775 containing more detailed information relating to that particular alarm. Further, the user may also select the alphanumeric designator for the device causing a particular alarm to investigate the possible reasons for the alarm. When the alphanumeric designator is selected, a pop-up window 780 may be provided by the GUI. The pop-up window 780 may provide one or more response categories 785, which may facilitate the user's understanding of how a particular alarm should be addressed and within what time frame the alarm should be*

addressed. By way of example, the pop-up window 780 may indicate that a particular device is no longer communicating, that the device has failed, that the device needs maintenance immediately, or that the device requires maintenance or some other attention soon (¶ 0140 lines 1-26).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply Nixon et al. teaching of a data collection and distribution system into Woodlard et al. and Green et al. systems in order to collect and store data from different data sources, each of which may use it own proprietary manner of acquiring or generating the data in the first place, and then make the stored data available to other applications associated with or provided in the process control system or to applications associated with the data sources themselves for use in any desired manner (¶ 0013 lines 2-9).

12. **Claims 12-15, 19 and 20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Woodlard et al., in view of Green et al., and further view of Hosoe (US Pat. No. 6,047,376 A).

As per **claim 12**, Woodlard et al. discloses "a device for remote monitoring of equipment, the device having a network connection for connecting to a server connected to equipment to be monitored," as cited herein *FIG. 1* wherein the energy and facilities management system 12, facilities 14, and terminals 17 interpreted as the server, an equipment, and the remote device respectively.

"the server comprising a database for storing data received from the equipment," as cited herein *in operation, the devices D may generate data about the operation of the device or its energy usage and pass the data to the gateway which forwards it on to the server which stores the data (col. 8 lines 13-16)*; and *the server 102 may include a real-time database (Rtdb) 128 and a configuration database 129 which communicate with each other. The Rtdb may receive data from the gateways, issue commands to the devices, and disseminate data to the client PCs 104-108. The configuration database 129 may receive configuration data from a gateway for a particular device and forward updated configuration data to a device and gateway (col. 9 lines 28-36)* wherein the device interpreted as the equipment.

a summarizer for monitoring and summarizing the data stored in the database, and (as cited herein *the energy and facilities management system 12 may permit, for example, the energy usage of each facility to be monitored and an alarm sounded if a predetermined condition occurs (col. 4 lines 40-43)*; and *the energy manager may receive data from a variety of sources, such as utility meters in the facility. The energy manager may perform a variety of functions, such as tracking energy usage, analyzing energy usage by analyzing historical energy usage data or analyzing energy load aggregation data, energy rate analyzing, energy usage forecasting based on various data such as forecast weather conditions, power procurement analyzing, such as generating a request for purchase (RFP), analyzing the energy usage of different sites and comparing the sites to each other and alarm signaling (col. 5 lines 52-62)* interpreted as monitoring and summarizing data).

a feed generator for generating a feed based on the data stored in the database and the summarized data, the feed being stored on the server, (as cited herein *the energy manager 40 gathers energy usage data and permits users of the system to view and analyze energy usage over any combination of facilities or time periods. The energy manager may permit the user to diagnose energy usage problems and develop strategies to reduce energy costs by optimizing responses to queries by the user based on the time of day, the current energy rate and environmental conditions. The energy manager may receive data from a variety of sources, such as utility meters in the facility. The energy manager may perform a variety of functions, such as tracking energy usage, analyzing energy usage by analyzing historical energy usage data or analyzing energy load aggregation data, energy rate analyzing, energy usage forecasting based on various data such as forecast weather conditions, power procurement analyzing, such as generating a request for purchase (RFP), analyzing the energy usage of different sites and comparing the sites to each other and alarm signaling. In more detail, the usage tracking may include monitoring and generating trends for real-time energy usage of each facility in various energy units, such as kilowatts (KW), kilowatt hours (KWH), or British thermal units (BTUs) (col. 5 lines 45-66)*; and *an alarm signaling function may generate an alarm signal when certain conditions occur, such as energy load peaks, power spikes, surges, sags and deviations from an acceptable signal quality and keep track of the total number of alarms (col. 6 lines 17-21)* wherein gathered energy usage data interpreted as a feed of data) "the device comprising:"

a storage component for storing an address of the server as its source of the feed to be displayed; (as cited herein *at each building, a user executing a client application on a personal computer, for example, may query one of the servers and receive data about some portions of the entity's physical plant. In the example shown in FIG. 3, each client application requesting data about the enterprise may be represented by a client object in an object oriented programming language. Therefore, in accordance with the invention, in order to provide information to a particular client application, the client object corresponding to the client application may be modified and then the client application may read the modified client object. For example, in building 54, a first client application/object 66 and a second client application/object 68 may access information about the physical plant. In the embodiment shown, the client applications may be client software applications being executed on a computer system within the building which access data from the servers. In the preferred embodiment, the client applications/objects may be Internet/Intranet browser software applications which access the servers over the Internet/Intranet to communicate data and commands to the servers. For locations, buildings or sites in which more than one client application is being executed, the energy management system may include a data concentrator (C) which attempts to reduce the data traffic between the client application and the servers by combining requests from the client applications into a single request. For example, if both client applications are requesting the same updated data about*

a particular piece of equipment, the concentrator may generate a single request for the data and then communicate that updated data to each client application once the updated data is received by the concentrator (col. 7 line 41 to col. 8 line 4)).

"a look-up component for performing a look-up of the feed from the server at regular read intervals; and" as cited herein *the energy manager 40 gathers energy usage data and permits users of the system to view and analyze energy usage over any combination of facilities or time periods (col. 5 lines 45-47)*; and *the facility manager may also monitor and display peak facility operating periods. The facility manager may also analyze equipment efficiencies under partial and full load, develop operating efficiency load profiles, track operating hours and benchmark load profiles against capacity ratings. The facility manager may also optimize the existing systems by, for example, balancing HVAC operating times to meet building use periods and environmental changes, and optimize existing equipment's usage. The facility manager may also control the existing systems and devices and initiate soft starts, hard starts and stops of the equipment, program control set-points and provide a manual override of the systems and equipment (col. 7 lines 3-15)*.

"a display for displaying the feed" as cited herein as cited herein *these terminals 17 may be located at any location where access to the communications system 16 is available. For example, a manager may access real-time energy data from a facility in Singapore while in New York. In addition, there may be*

multiple people at various different locations accessing different or the same energy data at the same time due to the real-time data retrieval and dissemination system as described below in more detail. Thus, anyone in the entity may access any energy data about the physical plant at any time. The actual data displayed to each user may be customized based on the user's needs so that each user may receive different data or the same data presented in a different way. For example, a CFO may receive a different set of data than an energy manager (col. 4 lines 51- 65); and *each client PC 104, 106 or 108 may include one or more client objects 130, 132, 134 which are connected to a concentrator 136. As described above, the client objects, which may be software applications being executed by the client PC, such as a Internet/Intranet browser, may generate requests for data from the server 102 which the concentrator 136 may combine together if possible. The concentrator 136 thus may act as a data traffic controller to prevent the client objects from overloading the server 102 with duplicate requests. The concentrator, therefore, reduces the data traffic flow between the server 102 and each PC. The client application may consist of one or more stand-alone software application programs or modules that can communicate independently to the server 102 to receive real-time data updates of data element status changes which are displayed visually for the client in a variety of ways, such as using a web browser (col. 9 lines 38-54)*.

Green et al. discloses the limitations, which do not explicitly disclose by Woodlard et al., as followings:

"summarizing the data" as cited herein *the invention may also provide summary and background information regarding particular water quality parameters (p. 6 lines 13-14)*.

"the feed being stored on the server" as cited herein *the database system maintains information regarding each user and the data submitted by each user. This information may include information for tailoring a web interface for the use of particular users (p. 6 lines 7-9)*.

In addition, Hosoe disclose "storing an address of the server", which does not explicitly disclose by Woodlard et al. and Green et al., as cited herein *it is necessary to authenticate each access by permitting or refusing it when a client makes an access to a server in a client-server system in which clients and servers are interconnected via a network. The client utilizes memory medium which stores both the server address and the memory medium's identification information. The client also uses a read-out device to fetch the contents of the memory medium and uses thus read out server address, to be connected to a desired server and then transmits the abovementioned read out identification information to ask for server access permission (Abstract, lines 1-11)*.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply Green et al. teaching of a centralized database system for collecting and storing water quality data into Woodlard et al. system in order to measure, analyze and maintain the quality of water (Abstract, lines 1-2). Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply Hosoe teaching of server access authentication into Woodlard et al. and

Green et al. systems in order to provide a server-client system and a server access authentication method whereby the user can easily obtain his legal server access and, at the same time, an illegal server access by others can be prevented (Hosoe, col. 1 lines 36-40).

As per **claim 13**, Woodlard et al. does not explicitly disclose "the device according to claim 12 wherein the read intervals are settable by a user of the device". However, Green et al. discloses as cited herein u*sers will be able to view data from the various sources in a variety of formats for the chosen water quality parameters in a variety of ways. The actual results reported by the user for the chosen water quality parameters may be compared with the guidelines and standards for the selected jurisdictions and the comparison may be displayed in the form of a table, graph or chart. Choices for various periods of time for the charts will be provided, such as 1 day, 5 days, 1 month, 3 months, and 1 year (p. 22 lines 11-16)*.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply Green et al. teaching of a centralized database system for collecting and storing water quality data into Woodlard et al. system in order to measure, analyze and maintain the quality of water (Abstract, lines 1-2).

As per **claim 14**, Woodlard et al. discloses "the device according to claim 12 further comprising a filter for filtering data in the feed received from the server and" as cited herein *in operation, the devices D may generate data about the operation of the*

device or its energy usage and pass the data to the gateway which forwards it on to the server which stores the data. When a client application requests data about a device, the request is passed to the concentrator associated with the application which filters out any duplicate requests (col. 8 lines 13-18) "a data selector for selecting a portions of the data for display" as cited herein as cited herein u*sers will be able to view data from the various sources in a variety of formats for the chosen water quality parameters in a variety of ways. The actual results reported by the user for the chosen water quality parameters may be compared with the guidelines and standards for the selected jurisdictions and the comparison may be displayed in the form of a table, graph or chart. Choices for various periods of time for the charts will be provided, such as 1 day, 5 days, 1 month, 3 months, and 1 year (p. 22 lines 11-16)*.

As per **claim 15**, Woodlard et al. discloses "the device according to claim 12 wherein the device operates to cause sequential feeds to be displayed while the device is active without additional selection by the user" as cited herein *each client PC 104, 106 or 108 may include one or more client objects 130, 132, 134 which are connected to a concentrator 136. As described above, the client objects, which may be software applications being executed by the client PC, such as a Internet/Intranet browser, may generate requests for data from the server 102 which the concentrator 136 may combine together if possible. The concentrator 136 thus may act as a data traffic controller to prevent the client objects from overloading the server 102 with duplicate requests. The concentrator, therefore, reduces the data traffic flow between the server*

102 and each PC. The client application may consist of one or more stand-alone software application programs or modules that can communicate independently to the server 102 to receive real-time data updates of data element status changes which are displayed visually for the client in a variety of ways, such as using a web browser. Thus, data is automatically updated for each client application as will be described in more detail below (col. 9 lines 38-55).

As per **claim 19**, Woodlard et al. discloses "a method of operation of a device for remote monitoring of equipment, the method comprising:"

"providing a network connection for connecting to a server connected to the equipment to be monitored," as cited herein *FIG. 1* wherein the energy and facilities management system 12, facilities 14, and terminals 17 interpreted as the server, an equipment, and the remote device respectively.

"the server receiving data from the equipment storing the received data in a database," as cited herein *in operation, the devices D may generate data about the operation of the device or its energy usage and pass the data to the gateway which forwards it on to the server which stores the data (col. 8 lines 13-16)*; and *the server 102 may include a real-time database (Rtdb) 128 and a configuration database 129 which communicate with each other. The Rtdb may receive data from the gateways, issue commands to the devices, and disseminate data to the client PCs 104-108. The configuration database 129 may receive configuration data from a gateway for a*

particular device and forward updated configuration data to a device and gateway (col. 9 lines 28-36) wherein the device interpreted as the equipment.

monitoring and summarizing the data stored in the database, and (as cited herein *the energy and facilities management system 12 may permit, for example, the energy usage of each facility to be monitored and an alarm sounded if a predetermined condition occurs (col. 4 lines 40-43)*; and *the energy manager may receive data from a variety of sources, such as utility meters in the facility. The energy manager may perform a variety of functions, such as tracking energy usage, analyzing energy usage by analyzing historical energy usage data or analyzing energy load aggregation data, energy rate analyzing, energy usage forecasting based on various data such as forecast weather conditions, power procurement analyzing, such as generating a request for purchase (RFP), analyzing the energy usage of different sites and comparing the sites to each other and alarm signaling (col. 5 lines 52-62)* interpreted as monitoring and summarizing data).

generating a feed containing reports of parameters being monitored in the equipment based on at least one of the data stored in the database and the summarized data; (as cited herein *the energy manager 40 gathers energy usage data and permits users of the system to view and analyze energy usage over any combination of facilities or time periods. The energy manager may permit the user to diagnose energy usage problems and develop strategies to reduce energy costs by optimizing responses to queries by the user based on the time of day, the current energy rate and environmental conditions. The energy manager may receive data from*

a variety of sources, such as utility meters in the facility. The energy manager may perform a variety of functions, such as tracking energy usage, analyzing energy usage by analyzing historical energy usage data or analyzing energy load aggregation data, energy rate analyzing, energy usage forecasting based on various data such as forecast weather conditions, power procurement analyzing, such as generating a request for purchase (RFP), analyzing the energy usage of different sites and comparing the sites to each other and alarm signaling. In more detail, the usage tracking may include monitoring and generating trends for real-time energy usage of each facility in various energy units, such as kilowatts (KW), kilowatt hours (KWH), or British thermal units (BTUs) (col. 5 lines 45-66); and *an alarm signaling function may generate an alarm signal when certain conditions occur, such as energy load peaks, power spikes, surges, sags and deviations from an acceptable signal quality and keep track of the total number of alarms (col. 6 lines 17-21)* wherein gathered energy usage data interpreted as a feed of data).

storing an address of the server as a source of feed to be displayed, (as cited herein *at each building, a user executing a client application on a personal computer, for example, may query one of the servers and receive data about some portions of the entity's physical plant. In the example shown in FIG. 3, each client application requesting data about the enterprise may be represented by a client object in an object oriented programming language. Therefore, in accordance with the invention, in order to provide information to a particular client application, the client object corresponding to the client application may be modified and then the client application may read the*

modified client object. For example, in building 54, a first client application/object 66 and a second client application/object 68 may access information about the physical plant. In the embodiment shown, the client applications may be client software applications being executed on a computer system within the building which access data from the servers. In the preferred embodiment, the client applications/objects may be Internet/Intranet browser software applications which access the servers over the Internet/Intranet to communicate data and commands to the servers. For locations, buildings or sites in which more than one client application is being executed, the energy management system may include a data concentrator (C) which attempts to reduce the data traffic between the client application and the servers by combining requests from the client applications into a single request. For example, if both client applications are requesting the same updated data about a particular piece of equipment, the concentrator may generate a single request for the data and then communicate that updated data to each client application once the updated data is received by the concentrator (col. 7 line 41 to col. 8 line 4)).

"performing a look-up of the feed from the server at regular read intervals; and" as cited herein *the energy manager 40 gathers energy usage data and permits users of the system to view and analyze energy usage over any combination of facilities or time periods (col. 5 lines 45-47)*; and *the facility manager may also monitor and display peak facility operating periods. The facility manager may also analyze equipment efficiencies under partial and full load, develop operating efficiency load profiles, track operating hours and benchmark load profiles against capacity ratings. The facility manager may*

also optimize the existing systems by, for example, balancing HVAC operating times to meet building use periods and environmental changes, and optimize existing equipment's usage. The facility manager may also control the existing systems and devices and initiate soft starts, hard starts and stops of the equipment, program control set-points and provide a manual override of the systems and equipment (col. 7 lines 3-15).

"displaying the feed" as cited herein as cited herein *these terminals 17 may be located at any location where access to the communications system 16 is available. For example, a manager may access real-time energy data from a facility in Singapore while in New York. In addition, there may be multiple people at various different locations accessing different or the same energy data at the same time due to the real-time data retrieval and dissemination system as described below in more detail. Thus, anyone in the entity may access any energy data about the physical plant at any time. The actual data displayed to each user may be customized based on the user's needs so that each user may receive different data or the same data presented in a different way. For example, a CFO may receive a different set of data than an energy manager (col. 4 lines 51- 65)*; and *each client PC 104, 106 or 108 may include one or more client objects 130, 132, 134 which are connected to a concentrator 136. As described above, the client objects, which may be software applications being executed by the client PC, such as a Internet/Intranet browser, may generate requests for data from the server 102 which the concentrator 136 may combine together if possible. The concentrator 136 thus may act as a data traffic controller to prevent the client objects from overloading*

the server 102 with duplicate requests. The concentrator, therefore, reduces the data traffic flow between the server 102 and each PC. The client application may consist of one or more stand-alone software application programs or modules that can communicate independently to the server 102 to receive real-time data updates of data element status changes which are displayed visually for the client in a variety of ways, such as using a web browser (col. 9 lines 38-54).

Green et al. discloses the limitations, which do not explicitly disclose by Woodlard et al., as followings:

"summarizing the data" as cited herein *the invention may also provide summary and background information regarding particular water quality parameters (p. 6 lines 13-14).*

"the feed being stored on the server" as cited herein *the database system maintains information regarding each user and the data submitted by each user. This information may include information for tailoring a web interface for the use of particular users (p. 6 lines 7-9).*

In addition, Hosoe disclose "storing an address of the server", which does not explicitly disclose by Woodlard et al. and Green et al., as cited herein *it is necessary to authenticate each access by permitting or refusing it when a client makes an access to a server in a client-server system in which clients and servers are interconnected via a network. The client utilizes memory medium which stores both the server address and the memory medium's identification information. The client also uses a read-out device to fetch the contents of the memory medium and uses thus read out server address, to*

be connected to a desired server and then transmits the abovementioned read out identification information to ask for server access permission (Abstract, lines 1-11).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply Green et al. teaching of a centralized database system for collecting and storing water quality data into Woodlard et al. system in order to measure, analyze and maintain the quality of water (Abstract, lines 1-2). Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply Hosoe teaching of server access authentication into Woodlard et al. and Green et al. systems in order to provide a server-client system and a server access authentication method whereby the user can easily obtain his legal server access and, at the same time, an illegal server access by others can be prevented (Hosoe, col. 1 lines 36-40).

As per **claim 20**, Woodlard et al. discloses "a computer program product embodied in a computer-readable medium comprising instructions and data which, when loaded onto a device having a network connection for connecting to a server receiving data from the equipment," as cited herein *FIG. 1* wherein the energy and facilities management system 12, facilities 14, and terminals 17 interpreted as the server, an equipment, and the remote device respectively.

"storing the received data in a database," as cited herein *in operation, the devices D may generate data about the operation of the device or its energy usage and pass the data to the gateway which forwards it on to the server which stores the data*

(col. 8 lines 13-16); and *the server 102 may include a real-time database (Rtdb) 128 and a configuration database 129 which communicate with each other. The Rtdb may receive data from the gateways, issue commands to the devices, and disseminate data to the client PCs 104-108. The configuration database 129 may receive configuration data from a gateway for a particular device and forward updated configuration data to a device and gateway (col. 9 lines 28-36)* wherein the device interpreted as the equipment.

monitoring and summarizing the data stored in the database, and (as cited herein *the energy and facilities management system 12 may permit, for example, the energy usage of each facility to be monitored and an alarm sounded if a predetermined condition occurs (col. 4 lines 40-43)*; and *the energy manager may receive data from a variety of sources, such as utility meters in the facility. The energy manager may perform a variety of functions, such as tracking energy usage, analyzing energy usage by analyzing historical energy usage data or analyzing energy load aggregation data, energy rate analyzing, energy usage forecasting based on various data such as forecast weather conditions, power procurement analyzing, such as generating a request for purchase (RFP), analyzing the energy usage of different sites and comparing the sites to each other and alarm signaling (col. 5 lines 52-62)* interpreted as monitoring and summarizing data).

generating a feed containing reports of parameters being monitored in the equipment based on at least one of the data stored in the database and the summarized data, (as cited herein *the energy manager 40 gathers energy usage data*

and permits users of the system to view and analyze energy usage over any combination of facilities or time periods. The energy manager may permit the user to diagnose energy usage problems and develop strategies to reduce energy costs by optimizing responses to queries by the user based on the time of day, the current energy rate and environmental conditions. The energy manager may receive data from a variety of sources, such as utility meters in the facility. The energy manager may perform a variety of functions, such as tracking energy usage, analyzing energy usage by analyzing historical energy usage data or analyzing energy load aggregation data, energy rate analyzing, energy usage forecasting based on various data such as forecast weather conditions, power procurement analyzing, such as generating a request for purchase (RFP), analyzing the energy usage of different sites and comparing the sites to each other and alarm signaling. In more detail, the usage tracking may include monitoring and generating trends for real-time energy usage of each facility in various energy units, such as kilowatts (KW), kilowatt hours (KWH), or British thermal units (BTUs) (col. 5 lines 45-66); and *an alarm signaling function may generate an alarm signal when certain conditions occur, such as energy load peaks, power spikes, surges, sags and deviations from an acceptable signal quality and keep track of the total number of alarms (col. 6 lines 17-21)* wherein gathered energy usage data interpreted as a feed of data). "causes the device to:"

uniquely address the feed located at the server (as cited herein *at each building, a user executing a client application on a personal computer, for example, may query one of the servers and receive data about some portions of*

the entity's physical plant. In the example shown in FIG. 3, each client application requesting data about the enterprise may be represented by a client object in an object oriented programming language. Therefore, in accordance with the invention, in order to provide information to a particular client application, the client object corresponding to the client application may be modified and then the client application may read the modified client object. For example, in building 54, a first client application/object 66 and a second client application/object 68 may access information about the physical plant. In the embodiment shown, the client applications may be client software applications being executed on a computer system within the building which access data from the servers. In the preferred embodiment, the client applications/objects may be Internet/Intranet browser software applications which access the servers over the Internet/Intranet to communicate data and commands to the servers. For locations, buildings or sites in which more than one client application is being executed, the energy management system may include a data concentrator (C) which attempts to reduce the data traffic between the client application and the servers by combining requests from the client applications into a single request. For example, if both client applications are requesting the same updated data about a particular piece of equipment, the concentrator may generate a single request for the data and then communicate that updated data to each client application once the updated data is received by the concentrator (col. 7 line 41 to col. 8 line 4)).

"perform a look-up of the feed from the server at regular read intervals; and" as cited herein *the energy manager 40 gathers energy usage data and permits users of the system to view and analyze energy usage over any combination of facilities or time periods (col. 5 lines 45-47)*; and *the facility manager may also monitor and display peak facility operating periods. The facility manager may also analyze equipment efficiencies under partial and full load, develop operating efficiency load profiles, track operating hours and benchmark load profiles against capacity ratings. The facility manager may also optimize the existing systems by, for example, balancing HVAC operating times to meet building use periods and environmental changes, and optimize existing equipment's usage. The facility manager may also control the existing systems and devices and initiate soft starts, hard starts and stops of the equipment, program control set-points and provide a manual override of the systems and equipment (col. 7 lines 3-15)*.

"display the feed" as cited herein as cited herein *these terminals 17 may be located at any location where access to the communications system 16 is available. For example, a manager may access real-time energy data from a facility in Singapore while in New York. In addition, there may be multiple people at various different locations accessing different or the same energy data at the same time due to the real-time data retrieval and dissemination system as described below in more detail. Thus, anyone in the entity may access any energy data about the physical plant at any time. The actual data displayed to*

each user may be customized based on the user's needs so that each user may receive different data or the same data presented in a different way. For example, a CFO may receive a different set of data than an energy manager (col. 4 lines 51- 65); and *each client PC 104, 106 or 108 may include one or more client objects 130, 132, 134 which are connected to a concentrator 136. As described above, the client objects, which may be software applications being executed by the client PC, such as a Internet/Intranet browser, may generate requests for data from the server 102 which the concentrator 136 may combine together if possible. The concentrator 136 thus may act as a data traffic controller to prevent the client objects from overloading the server 102 with duplicate requests. The concentrator, therefore, reduces the data traffic flow between the server 102 and each PC. The client application may consist of one or more stand-alone software application programs or modules that can communicate independently to the server 102 to receive real-time data updates of data element status changes which are displayed visually for the client in a variety of ways, such as using a web browser (col. 9 lines 38-54)*.

Green et al. discloses the limitations, which do not explicitly disclose by Woodlard et al., as followings:

"summarizing the data" as cited herein *the invention may also provide summary and background information regarding particular water quality parameters (p. 6 lines 13-14)*.

"the feed being stored on the server" as cited herein *the database system maintains information regarding each user and the data submitted by each user. This information may include information for tailoring a web interface for the use of particular users (p. 6 lines 7-9)*.

In addition, Hosoe disclose "store uniquely address of the server", which does not explicitly disclose by Woodlard et al. and Green et al., as cited herein *it is necessary to authenticate each access by permitting or refusing it when a client makes an access to a server in a client-server system in which clients and servers are interconnected via a network. The client utilizes memory medium which stores both the server address and the memory medium's identification information. The client also uses a read-out device to fetch the contents of the memory medium and uses thus read out server address, to be connected to a desired server and then transmits the abovementioned read out identification information to ask for server access permission (Abstract, lines 1-11)*.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply Green et al. teaching of a centralized database system for collecting and storing water quality data into Woodlard et al. system in order to measure, analyze and maintain the quality of water (Abstract, lines 1-2). Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply Hosoe teaching of server access authentication into Woodlard et al. and Green et al. systems in order to provide a server-client system and a server access authentication method whereby the user can easily obtain his legal server access and,

at the same time, an illegal server access by others can be prevented (Hosoe, col. 1 lines 36-40).

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bai D. Vu whose telephone number is 571-270-1751. The examiner can normally be reached on Mon - Fri 7:30 - 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christian Chace can be reached on 571-272-4190. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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